

Governance and Moderation in Online Communities of Consumption:
A Framework for Community Management

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Abstract

Although governance is a vibrant field of study, to date there exists no framework to classify governance mechanisms in Online Communities of Consumption (OCC). As a result knowledge on the topic is highly fragmented. To address this, the article presents a framework inspired by theory developed in other governance domains and encompassing three main governance systems (market, hierarchy, and clan), and their associated moderation activities (relationship initiation, relationship maintenance, and relationship termination). Discussion of the framework then identifies the major contingencies that influence the functioning of governance systems. The framework enables practitioners and academics alike to better understand the social and economic mechanisms at play in OCC, and to align community management activities according to the specific goals they set. The article concludes with a discussion of limitations, together with directions for future research.

Keywords

Online Communities of Consumption; Governance; Moderation; Community Management

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Introduction

In their 2009 Harvard Business Review article, Fournier and Lee bust a number of misleading myths that surround the management of online communities of consumption (OCC). At the root of those myths is the fallacy that communities are homogeneous. Participation goals and social roles are more varied than usually acknowledged, Fournier and Lee argue, and this diversity should be embraced rather than limited because “communities are strongest when everyone plays a role” (2009, p. 109). Consequently, “smart companies [should] embrace the conflicts that makes communities thrive” (2009, p. 108) and engage with all members rather than only opinion leaders and evangelists (2009, p. 109). In the article, diversity emerges as an integral part of OCC life and is shown to develop into an asset instead of a burden if it is appropriately managed. However the question of how diversity can be managed remains largely unanswered. Fournier and Lee, thus, refer to one of the key challenges that OCC and their managers face, i.e., “how to coordinate the actions of individuals to achieve collective outcomes” (O’Mahonny & Ferraro, 2007). In other words, how to align the interests of various community stakeholders with those of the group. This article investigates the (social) control mechanisms, or governance systems, by which OCC regulate the social dilemmas arising from members’ differential interests and roles.

Beyond Fournier and Lee’s discussion of brand communities, OCC governance systems have attracted interest across a wide range of social dilemmas and research contexts. Lampe and

Governance and Moderation in Online Communities of Consumption

Johnston (2005) investigated how feedback can balance new members' motivation to contribute with information overload in a news forum community. Wiertz, Mathwick, de Ruyter, and Dellaert (2010) examined the effect of feedback mechanisms on peer-to-peer problem-solving free-riding behavior, whereby members consume communal knowledge without contributing to its production. O'Mahony and Ferraro (2007) analyzed how different forms of authority help open-source communities coordinate interdependent members and co-produce software in the group. Forte, Larco, and Bruckman (2009) studied how Wikipedia (peer-production community) policies and social norms enabled resolution of conflicts between contributors about the encyclopedia articles' content, allowing communal work to flourish. Fairfield (2008) argued how, in virtual worlds, contract law should be replaced by common law to avoid citizens' defamation, harassment and defraud, and protect citizens' fundamental rights, a necessary public good. In communities of transaction, Gilkeson and Reynolds (2003) identified which auction pricing mechanisms enable the completion of successful, mutually beneficial auctions for the two parties and Campbell, Fletcher, and Greenhill (2009) examined conflict between members of a trading forum, and its influence on group identity construction. Cheng and Vassileva (2006) investigated which member reward systems in communities of learning are best for reaching a critical mass of communal knowledge and creating common good while avoiding information overload. The OCC governance systems identified in this diverse range of studies operate at various levels and address control mechanisms that are specific to the community contexts and social dilemmas investigated. As a result, knowledge developed thus far regarding OCC governance is highly fragmented and a general, unified framework providing a holistic view of the social control mechanisms in OCC is currently lacking.

Governance and Moderation in Online Communities of Consumption

To address this gap in the literature, this article (1) offers a typology of governance structures regulating behaviors in OCC, and (2) articulates how each governance structure is transformed into practical moderation strategies. In addition, this study highlights major contingencies determining which governance structures and moderation strategies should be adopted in particular situations, to aid practitioners and future researchers. To date, this represents the first study to offer this holistic framework of OCC governance and moderation.

The OCC governance framework presented here is based on a wide range of literature, including B2B channels literature, wherein much governance theory has been developed. Although the OCC context generates particular solutions to social dilemmas, the article shows that collating this diverse literature allows for the development of a coherent vocabulary that gives clear indication of how theoretical and practical concepts of OCC governance relate to each other. This will allow OCC members and managers to make better informed decisions about governance strategies and practices. This integration of literature also allows for clear identification of gaps in knowledge to guide future research.

The rest of the article is organized as follows. First, OCC governance structures and their relevant implementation mechanisms are defined and organized into a typology, to elucidate which fundamental social control mechanisms regulate behaviors in OCC. Second, applied governance, or moderation, and its dimensions are defined in an OCC context. This illustrates what is required to influence social control mechanisms within OCC. During the subsequent discussion, the study's contribution, major contingencies relating to the OCC governance framework, and limitations, are presented in order to motivate further research in this area.

Governance Structures in Online Communities of Consumption

A variety of rules and enforcement mechanisms orienting individual behavior in OCC have been described but, currently, a unified framework of governance structures in OCC does not exist. This is problematic as it hinders not only the development of sound knowledge on the topic, but community management as well. In contrast, researchers in a variety of fields, including institutional economics, organization theory, law, and sociology, have developed typologies of governance, mapping the different forms of control (e.g., Bradach & Eccles, 1989; MacNeil, 1978; Ouchi, 1979; Williamson, 1975). These studies further inspired channel marketing researchers to examine governance in the field of marketing (e.g., Heide, 1994). The purpose of this section is to establish whether existing governance theory can be used to organize the different forms of OCC governance found in the literature.

Researchers typically treat governance as a structure, a set of rules defining appropriate behavior, and mechanisms to enforce those rules (Ellickson, 1987). A review of definitions indicates that researchers largely refer to the same three archetypal governance structures, but use different terminology because of their perspectives. The terms used are *market governance* (Heide, 1994; Ouchi, 1979; Williamson, 1975), also referred to as bilateral governance (Williamson, 1979) and price (Bradach & Eccles, 1989); *hierarchy governance* (Williamson, 1985), also referred to as bureaucratic governance (Ouchi, 1979), unified governance (Williamson, 1979), unilateral governance (Heide, 1994) and authority (Bradach & Eccles, 1989); and *clan governance* (Ouchi, 1979), also referred to as bilateral governance (Heide, 1994) and hybrid governance

Governance and Moderation in Online Communities of Consumption

(Williamson, 1975). These archetypal governance structures can be distinguished based on the following; (1) specific control mechanisms representing a type of rule and form of enforcement; (2) assumptions about the goal they serve, the type of interaction they entail, and the context in which they occur; and, (3) the theoretical framework in which they have been developed (see Table 1).

A review of the literature theorizing online community governance and social influence in OCC was conducted. For a review of the literature used, see Appendix 1. This systematic review reveals that the offline trichotomy can be used to typify governance structures operating in OCC. In the following section, the trichotomy developed in the offline, inter-organizational context, and its subsequent application to OCC, is discussed.

Typology of Offline Governance Structures

[Insert Table 1 about here]

Market governance explains the control mechanism of marketplaces and is rooted in micro-economic theory. The assumption underlying the principle of market governance is that market agents interact with each other by means of transactions (i.e. products or services are exchanged in return for money). The aim is value maximization. The rules of market governance are, thus, transaction rules. There are two types of transaction rules. The first is the rule of reciprocity. This states that a market agent who has received an item of a certain value needs to reciprocate by giving something of similar value to the sender. The second is the rule of exchange rate. This

Governance and Moderation in Online Communities of Consumption

defines the value of one item (e.g., a good) in comparison to another (e.g., money) (Ouchi, 1979). Transaction rules are enforced through negotiation between market agents.

Hierarchy governance explains the control mechanisms that operate in formal organizations in which a hierarchical structure determines who has power over whom. This type of governance structure encapsulates power dependency theory, which assumes that many relationships between members in an organization are unbalanced and unilateral due to differing levels of power linked to members' formal positions (Heide, 1994). This power imbalance encourages the stronger party to impose authoritarian rules upon the weaker party. Authoritarian rules are arbitrary standards defined unilaterally by the stronger party. They specify what should be done by the weaker party to complete a required task satisfactorily (Ouchi, 1979). These rules are enforced by coercion. The stronger party is presumed to act selfishly, ignoring the interests of the weaker party. Because this situation is unsatisfactory for the weaker party, he or she often seeks to increase his or her power (Emerson, 1962).

Finally, clan governance explains the control mechanisms that rule informal, more loosely structured, organizations and groups. Informal socialization processes align individual objectives with those of the group (Ouchi, 1979). Members' behaviors are regulated by group norms enforced by interpersonal influence in the group. Consequently, clan governance is rooted in theories of interpersonal influence. Clan governance assumes that relationships between group members are bilateral and that members aim for social integration. Social integration can be achieved in two ways. First, group members identify with the values, attitudes, and behaviors of the group, or willingly adopt these, in order to be associated with the group (Tajfel, 1982).

Governance and Moderation in Online Communities of Consumption

Second, members do not necessarily adopt group values, beliefs, and attitudes, but simply comply in order to meet the expectations of the group (Ajzen, 1991). In the first case, observance of group norms is self-enforced; in the second case, compliance is generally enforced through explicit peer pressure.

Typology of Online Governance Structures

Whether these archetypal offline governance structures can be applied to online settings is currently unknown. One important consideration is that interactions in an online setting are mediated by code. Developers of OCC websites bring communities to life by creating virtual space and time and enabling interactions to take place (Grimes, Jaeger, & Fleischmann, 2008). Consequently, governance structures that control interactions in OCC are also shaped and mediated by technological protocols and codes. Based on a systematic review of the literature (see Appendix 1 for an overview), the following section addresses whether and how the archetypal trichotomy of offline governance structures can be applied to OCC (see Table 2).

[Insert Table 2 about here]

Market Governance

The concept of market governance was developed to explain regulation of financial transactions. Financial transactions form the bulk of interactions in online marketplace communities, such as Amazon, eBay, and Groupon. Financial transaction communities (Hagel & Armstrong, 1997)

Governance and Moderation in Online Communities of Consumption

can replicate traditional marketplaces, enabling the sale of items at a fixed price to buyers, or resemble auction sites, where potential buyers bid for products. In both cases, transactions are regulated by pricing mechanisms. In eBay auctions, for example, transaction success and final price were shown to be determined by opening price, reserve price, and the number of parties engaged in the bidding process (Gilkeson & Reynolds, 2003). Financial transactions are a specific form of transaction where a good or service is exchanged against a currency and where the exchange rate is called price.

However, transactions can also be non-financial in nature (such as barter and social exchange). Examples of OCC that are based on the principle of barter are Thredup, to exchange children's clothes, Swaptree, to exchange music, U-exchange, to exchange services, or Goswap, to swap homes. These types of transactions are also governed by market control mechanisms, although the mechanism is not fiscal, but some other rate of exchange (e.g. one Bob Dylan record = three Ray Charles records). Social exchange of support and information is another type of transaction frequently occurring in OCC. It is not only non-financial, but also non-economic, because what is transferred is not considered to have economic value. For instance, members of open source communities exchange lines of codes to improve software and solve problems (Shah, 2006). Within many other communities, members exchange opinions, advice, experiences or support.

The logic underlying social exchange-based interactions has characteristics of both gifting and transaction. In the examples given above, reciprocity between the donor and receiver is not explicitly required, but there is an expectation of generalized reciprocity whereby the receiver feels obliged to reciprocate to the community something of similar value to what was received.

Governance and Moderation in Online Communities of Consumption

Reciprocation does not need to be immediate and the time delay for payback is not explicit. In contrast to gifting practice, it is accepted by the exchanging parties that one may interact solely out of personal interest (e.g. problem solving, need for information or support). Furthermore, the exchange may not lead to relational outcomes, while gifting is traditionally viewed as a relational practice. These forms of social exchange are therefore conceptualized as transactional gifts (Davies, Whelan, Foley, & Walsh, 2010), or gifting that follows the logic of economic exchange (Hollenbeck, Peters, & Zinkhan, 2006). In this article, they are referred to as social transactions.

Transactions take place in a particular legal context, shaped by the social structure in which the transactions occurs (Bradach & Eccles, 1989; Humphrey, 2010; Stern & Reve, 1980). OCC are bound to a legal context and commercial laws that influence online transactions. Legal institutions are a type of third party guaranteeing that transaction rules are compliant with legal rules and that they will be enforced. Transacting parties can turn to these institutions in case of disputes or problems. The presence of legal rules and overseeing institutions is particularly important to OCC because, online, transacting parties perceive a higher risk of deception and abuse during negotiation and exchange (Citera, Beauregard, & Mitsuya, 2005). Not surprisingly, several researchers have investigated the way OCC transactions are governed through contract law (De Zwart & Lindsay, 2009; Fairfield, 2008; Grimes, Jaeger, & Fleischman, 2008; Humphreys, 2008; Shah, 2006). Within OCC, legal governance is generally based on the End User License Agreement (EULA) or the Terms of Service (ToS), which members agree to before joining. EULA and ToS define such issues as intellectual property (copyright), individual property on virtual objects, common law, crimes and exchange freedoms.

Governance and Moderation in Online Communities of Consumption

To conclude, members of OCC may engage in financial transactions, barter and social transactions. Online market governance is based on rules of exchange defined endogenously to the transaction. These rules can include price, non-financial exchange rates, and (in)direct reciprocity. Online market governance is also systematically based on legal contracts (EULAs and ToS) which shape transactions in OCC.

Hierarchy Governance

The communal characteristics of OCC, like voluntary participation and low exit barriers, led some authors to question whether hierarchy governance was applicable. While some claimed that hierarchy and its authoritarian rules cannot be imposed in online communities (Watson, 2005), several articles account for top-down mechanisms of rule definition and enforcement (e.g. De Zwart & Lindsay, 2009; Grimes, Jaeger, & Fleischmann, 2008; Humphreys, 2008; Kollock & Smith, 1996). Hierarchy governance is enabled in OCC by awarding technological powers to specific members or administrators. For instance, Humphreys (2008) describes the availability of surveillance technology for virtual world administrators, adopting spyware that automatically identifies behavioral patterns. Other researchers have described situations of hierarchical governance in which administrators can impose physical chastisement on players' avatars (Reid, 1999; Duval Smith, 1999).

While OCC hierarchy governance is systematically enabled by technological power, it can take two forms: despotic hierarchy governance and meritocratic hierarchy governance. Despotism is a form of governance in which a single party rules with absolute power and decisions are subject

to no restraints or control. When the ruling party is an individual, it is an autocracy. In OCC created bottom-up by consumers, technological power is usually in the hands of the founder who can modify the community at will. OCC owners are, thus, sometimes referred to as “autocratic leaders” (O’Mahonny & Ferraro, 2007), “gods” (Reid, 1999) or “Leviathan” (Kollock & Smith, 1996). Company or third-party owned OCC are generally not ruled by those who created them. The rulers, therefore, do not have the patriarchal legitimacy of individual founders. They rule as tyrants, dominating through threat of punishment, and are referred to as ‘dictators’ (De Zwart & Lindsey, 2009). Despotic legitimacy in OCC differs from the hierarchical structure defining formal organizations in an offline context, or bureaucratic legitimacy (Ouchi, 1979). While the first is a given, the second is legally and rationally determined (Weber, 1947). The rights and responsibilities of each member of the organization are formulated in writing from relationship initiation (legal) to ensure maximum efficiency (rational). Members are thus awarded power based on their knowledge and competency.

Meritocracy is a mix of bureaucracy and democracy. The logic is bureaucratic except that democratic mechanisms ensure that powerful positions are held by members accepted as leaders by the majority (O’Mahonny & Ferraro, 2007). Meritocracy is preferred to bureaucracy in OCC as online communities shun top-down hierarchical control although, as with all organizations, they need it (O’Mahonny & Ferraro, 2007). For instance, Duval Smith (1999) describes the creation of an elaborate democratic election system in an educative multi-user dungeon where despotic power was contested.

Governance and Moderation in Online Communities of Consumption

Despotic and meritocratic hierarchy governance structures are not mutually exclusive, but they represent different control mechanisms. Reid (1999) describes how technical powers in a virtual world were officially awarded based on talent recognized by the community (e.g., accomplishment of tasks, ability to create communal bonds). Nevertheless, this meritocratic mechanism was tainted with suspicions of favoritism and accusations of prejudice and injustice. Less powerful complainants were summarily punished by the more powerful members. Similarly, Humphreys (2008) describes Blizzard's exercise of power in World of Warcraft, consisting of tension between despotic methods of punishment and case-by-case meritocratic evaluations of member's activities.

To conclude, hierarchy governance in OCC is enabled by technological rather than administrative power and it can be despotic or meritocratic in nature. Those forms of governance contrast strongly with the bureaucratic governance that rules offline formal organizations.

Clan Governance

Clan governance is the most obvious form of governance in OCC because of the voluntary nature of OCC adherence and participation, as well as the generally informal and constantly evolving community organization. It has received a lot of attention from scholars studying governance in online communities, being referred to as a “democratic mode of governance” (O'Mahony & Ferraro, 2007), “self-governance” (Forte, Larco, & Bruckman, 2009), “normative governance” (Wiertz et al., 2010) and “player-to-player control” (Humphreys, 2008). Clan governance control mechanisms, whether online or offline, integrate members socially, with

Governance and Moderation in Online Communities of Consumption

group norms enforced via peer pressure and self-enforcement (Bagozzi & Dholakia, 2002). However, technology-mediation changes the way regulation occurs in OCC.

As in offline groups, all members in OCC may contribute to the development and enforcement of group norms, although in practice it is only the posters who are involved in this process. When lurkers decide to become contributors, they will be scrutinized by the other members for their adherence to group norms. In cases of deviant behavior, community members may reprimand or ignore new members. Wiertz et al. (2010) showed that in mature OCC, that host an active group of core contributors, it may be quite hard for newly arrived members to achieve social status (and, thus, more influence on the norm-setting and development process). This is because technological barriers, such as reaching a certain amount of posts, accumulating membership length, and developing a distinct, self-branded writing style become harder to overcome.

Normative OCC systems typically fragment due to group heterogeneity. Online, there are fewer barriers to community membership: constraints of time and geographic location, economic, and social barriers are more easily overcome due to the fact that interaction is technology-mediated (De Valck, Van Bruggen, & Wierenga, 2009). As a result, OCC tend to have a member base that is more heterogeneous than offline communities. Heterogeneity regularly causes conflicts of interest and tribal member fights regarding community norms (De Valck, 2007). Considerable heterogeneity makes it difficult to reach consensus on social norms and puts the community at risk of implosion.

Governance and Moderation in Online Communities of Consumption

Online communities commonly fragment their normative systems into local sub-systems to overcome this difficulty (Kollock & Smith, 1996; Mc William, 2000; Ren, Kraut, & Kiesler, 2007). Wikipedians self-select into ideological subgroups with diverging beliefs about the way the online encyclopedia should function and what its goals should be (Forte, Larco, & Bruckman, 2009). Members are also commonly clustered into subgroups with separate normative systems based on preferred activities. Flickr, Wikipedia, and Second Life function in this manner (Ren, Kraut, & Kiesler, 2007). Normative systems can also be segmented based on members' level of community experience. Virtual worlds commonly have "newbie gardens" where new, less skilled members can practice without the fear of being harassed by powerful members (Lampe & Johnston, 2005). Forums are sometimes divided into discussion areas directly relevant to the community's official interests, on the one hand, and areas for off-topic discussion on the other. This enables communities to overcome conflicts about topics (Ren, Kraut, & Kiesler, 2007). OCC thus have two-tier systems of social norms. The first tier defines norms applying to specific areas of the community, while the second tier norms apply to the community at large, including norms about how local sub-systems are organized with respect to one another.

Normative fragmentation is structured by the technological interface used for interaction (Forte Larco, & Bruckman, 2009; Ren, Kraut, & Kiesler, 2007). Website functionalities enable members to formally capture elaborate norm systems and articulate them in codes of conduct, netiquette and FAQ sections (Kollock & Smith, 1996; Lampe & Johnston, 2005). Messages unrelated to the community's official topic of interest are tagged in the subject line enabling members who are not interested to ignore them (Ren, Kraut, & Kiesler, 2007). Text-based

Governance and Moderation in Online Communities of Consumption

communication thus signals to the community that a message was published within the frame of a sub-system of norms. The availability of multiple communication media allows the development of norms about the segmented usage of each medium. For instance, private channels (instant messaging and email) are generally meant for personal discussions between online “friends”, while public channels such as forums should be used to discuss expert topics directly related to the community’s purpose (Ren, Kraut, & Kiesler, 2007). Similarly, site architecture enables segregation of heterogeneous forums into more homogeneous sub-forums, enabling norms to emerge. Finally, comment quality in the news site Slashdot is determined by a selection of members who rate all the comments published. Readers can choose to only receive the messages with the highest average ratings (Lampe & Resnick, 2004). There, automation technology enables a community-wide norm of quality which members can adapt to.

To conclude, clan governance is an important form of governance in OCC. Community administrators need to both enable and channel clan governance so as to guarantee a healthy community in which heterogeneous members settle (cf. Fournier & Lee, 2009). This can be achieved by incentivizing posters to design and enforce norms and by ensuring that both general and local norms are created. Community administrators need to leverage different specificities of technology-mediated communication such as site structure, textual artifacts, diversity of communication channels, and automation functionalities to aid this process.

Moderation in Online Communities of Consumption

Governance and Moderation in Online Communities of Consumption

In the previous section, three different OCC governance structures and associated control mechanisms were distinguished: market (transaction rules and contract law), hierarchy (meritocratic and despotic rules) and clan (group norms). Understanding how these structures and control mechanisms translate into actual behaviors is important, as it identifies what must be done to establish or administer a certain governance structure. The distinction between governance structures and their administration is also conceptually significant as the two do not operate at the same level. While the rules of governance structures are primary rules which regulate ordinary conduct, the rules defining the administration of governance structures are secondary rules which regulate the functioning of governance structures.

Heide (1994) detailed how governance structures can be administered in B2B relationships. He developed the concept of “applied governance” which organizes and integrates activities that initiate or support governance structures. However, the term “applied governance” is academic, and does not resonate with community stakeholders. In the context of OCC, the term “moderation” is more salient. Hence, in this article the term “moderation” describes those activities carried out by OCC stakeholders that initiate or support governance structures.

Present knowledge of moderation is sparse and fragmented. Online marketing literature typically uses the label “community management”. It describes “to-do” lists directed at practitioners, largely unrelated to governance theory (Fournier & Lee, 2009; Mc William, 2000; Williams, 1999; Williams & Cothrel, 2002). Moderation has been investigated in the context of focus groups (e.g. Fern, 2001; Langer, 2001) and online communities of learning (e.g. Hlapanis, Kordaki, & Dimitrakopoulou, 2006; Vlachopoulos & Cowan, 2010a; 2010b), but these studies

are context-dependent, and not pertinent to general OCC governance. For example, Fern (2001) discusses contingencies relating research epistemological objectives and research outcomes, Hlapanis, Korkadi, and Dimitrakopoulou (2006) discuss the moderator's influence on student learning, and Vlachopoulos and Cowan (2010b) discuss how that effect is moderated by pedagogical constraints. Some researchers explicitly investigated aspects of moderation in online communities, as part of governance theory, but examined it with respect to a single practice such as feedback (Moon & Sproull, 2008; Lampe & Johnston, 2005; Lampe & Resnick, 2004; Wiertz et al., 2010), End-User License Agreement (De Zwart and Lindsay, 2009; Fairfield, 2008; Shah, 2006) or conflict resolution (Duval-Smith, 1999; Reid, 1999). So, while these studies represent important first steps in understanding moderation in OCC, a unified, comprehensive framework detailing moderation practices for each form of governance structure (market, hierarchy, and clan) is lacking.

Heide (1994) proposed three major dimensions of applied governance: initiation, maintenance (consisting of six sub-processes), and termination. The purpose of this section is to ascertain whether these dimensions can be used to categorize OCC moderation practices. Heide's (1994) framework can be applied to the context of OCC as follows.

*Interaction Initiation*¹ is the selective entry process into an interaction, involving evaluation of the potential interlocutor, initial negotiation about the process of interaction, and preliminary adaptation efforts. *Interaction Maintenance* incorporates six sub-processes: *Role Specification, Planning, Monitoring, Rewards, Punishments, and Adjustments*. *Role Specification* consists of

¹ Although Heide discusses "relationships", this article uses the term "interaction" for the OCC context, because moderation involves the overseeing of control mechanisms associated with discrete transactions, which are non-relational in nature.

Governance and Moderation in Online Communities of Consumption

defining the objectives, rights and responsibilities of the different parties engaged in an interaction. *Planning* represents systems by which future contingencies and consequential rights and responsibilities are spelled out. *Monitoring* assesses the quality of the different actors' performance based on their role specification. *Rewards* are allocated to stakeholders based on the monitoring of their behavior. *Punishment* penalizes stakeholders on the basis of monitoring of their behavior. *Adjustment Processes* are used to adapt the applied governance system to changing circumstances. Finally, *Interaction Termination* is the process by which an interaction is brought to an end.

To understand moderation in OCC, a literature review of online community governance and social influence was conducted. Following this review, all the moderation concepts and practices discussed in the literature applying Heide's (1994) dimensions of applied governance were evaluated. For a review of the literature used, see Appendix 2. This systematic review reveals that Heide's (1994) applied governance framework provides a useful template for delineating moderation practices (see Table 3). The moderation practices associated with each form of governance structure (market, hierarchy, and clan) will now be discussed.

[Insert Table 3 about here]

Market Governance

Interaction Initiation: Individuals spend time identifying and selecting their exchange partners for both economic and social transactions. Profile screening plays a central role in partner

selection. In economic transactions, individuals spend time comparing offers, looking for good deals, browsing prices, and using a website's search functionality. Trust and reliability are especially important online (Citera, Beauregard, & Mitsuya, 2005). Thus, individuals spend time evaluating other parties, reading through individual profiles and paying particular attention to past ratings (Gilkeson & Reynolds, 2003). In social transactions, individual profiles are used to check whether a person is looking for a specific type of exchange, before initiating contact. For instance dating websites, originally meant to build up romantic relationships, are now commonly used to organize illicit encounters akin to social transactions. A member of a website looking for illicit encounters will look at other people's profiles to find someone suitable before making contact. The type of transactions proposed and their conditions are restricted by a legally-binding agreement accepted by all members when joining the website.

Interaction Maintenance: Different names are normally assigned to parties involved in a transaction, depending on whether it is an economic or social exchange. The roles of economic exchange partners are normally defined as that of a buyer, seller, bidder, if the good is auctioned (Gilkeson & Reynolds, 2003), or re-seller if second-hand goods are being exchanged, (Chu & Liao, 2007). In social exchanges, individuals are normally called the donor and the receiver (Hollenbeck, Peters, & Zinkhan, 2006). In both cases, one party (buyer/receiver) has an unfulfilled need and seeks to address that need. The other party (seller/donor) has valuable resources, and is ready to share or transfer these in return for economic, psychological or social value. In order for the terminology to be equally applicable to economic and social transactions, the terms provider and beneficiary are adopted here. Transactions are shaped by regulators who

act as both the legislator and judge. Regulators design legally-binding rules for transactions and then enforce these rules coercively when appropriate (De Zwart & Lindsay, 2009).

Future contingencies, rights, and responsibilities are often formalized by an End-User License Agreement (EULA) and Terms of Service (ToS), Privacy Statements, Community Standards, Frequently Asked Questions (FAQ), and User Guidelines. While EULAs and ToS typically apply to market governance structures (De Zwart & Lindsay, 2009; Fairfield, 2009; Grimes, Jaeger, & Fleischman, 2008; Shah, 2006), Privacy Statements and Community Standards to hierarchy governance structures (Grimes, Jaeger, & Fleischman, 2008) and FAQ and User Guidelines to clan governance issues (Forte, Larco & Bruckman, 2009; Grimes, Jaeger & Fleischmann, 2008; Kollock & Smith, 1996; Lampe & Johnston, 2005), this is not definitive. Since OCC generally have a limited number of planning documents and no standardized terminology, the documentation varies. However, the rules stated in those documents can be systematically classified as dealing with issues related to market, hierarchy or clan governance structures depending on the contingencies considered (e.g. transaction vs. relationship related) and the manner in which rights and responsibilities are defined (e.g. unilateral vs. bilateral).

Planning systems for market governance transactions define legal rights and legal infringements and how to deal with inadequate transactions and transaction failures. The rules vary depending on the community. Open-source communities tend to focus on intellectual property rights and the specific issues of code ownership, modification and distribution (Shah, 2006). Virtual worlds often specify virtual object property rights (Fairfield, 2008). Boundaries of freedom of speech and privacy agreements are also often addressed in legal terms (Humphreys, 2008). Regulatory

Governance and Moderation in Online Communities of Consumption

measures for economic transactions, in case of failures, are specified in terms of return and reimbursement conditions, and dispute resolution (cf. Gilkeson & Reynolds, 2003).

Monitoring of market governance structures consists of following up each transaction. In online auctions the sales process is monitored by the remaining time in the auction and information on the value of the highest bid. In traditional online sales, the conclusion of the deal is confirmed via a confirmation email and the delivery of the product via a delivery email. In social transactions, it is almost impossible to monitor these processes.

Individuals are rewarded for the accomplishment of their role through positive feedback. Feedback can take a formal or informal shape and applies to both economic and social transactions. Informal feedback constitutes thanking and congratulating the other party for good conduct during the transaction. Formal feedback is common in big OCC. Marketplaces like eBay (Gilkeson & Reynolds, 2003) and Amazon use formal feedback. Feedback is also commonly used in peer-to-peer problem solving communities (Moon & Sproull, 2008; Wiertz et al., 2010). Positive feedback is a source of psychological gratification. However, it also provides social gratification since feedback aggregates are publicly available on most sites. Feedback can thus be used as a means to build reputation and status in a community (Moon & Sproull, 2008; Wiertz et al., 2010).

Parties whose transactional experiences are negative can voice and punish other parties via negative feedback (Gilkeson & Reynolds, 2003; Moon & Sproull, 2008; Wiertz et al., 2010). Negative feedback acts as a psychological deterrent to misconduct but also as a social deterrent, since it can function as a form of shaming. Regulators can also punish misbehavior by banning

individuals (Humphreys, 2008) or imposing reimbursement in cases of transaction failure, as specified in regulatory documents.

Communication and transaction functionalities must be adapted to resolve glitches and remain abreast of the latest communication usage. The legal context within which transactions take place (EULA/ToS) might also need updating. This requires collaboration between the regulators and developers, and possibly other community stakeholders (Humphreys, 2008; Williams & Cothrel, 2002).

Interaction Termination: transactions encapsulated by market governance structures are terminated as soon as the reciprocal transfer of value is finished. This happens abruptly and there is no specific process associated with it (Heide, 1994).

Hierarchy Governance

Interaction Initiation: In closed communities administrators approve or reject applicants who want to become community members. The process usually starts with the member applying spontaneously or via a sponsor. However, the administrator can also be the first to reach out to individuals asking them to join to grow the community. This is common in brand communities managed by professional community managers. The administrator evaluates the applicant's profile and motivation to join to determine if membership in the group is granted. Selection is meritocratic if a potential member is evaluated based on his or her ability to serve the long-term viability and animation of the community, and despotic if it is based on an applicant's ability to

serve the administrator's private interests. For example, in a dating community specializing in executives, a meritocratic administrator would try to recruit executive-level men to decrease the imbalance of male and female member count. A despotic administrator by contrast would recruit men she finds attractive, male friends looking for a wealthy partner, irrespective of their social status, and female colleagues who asked her to let them in although they are not executives. In all cases, negotiation of unfavorable decisions is at the whim of the administrator.

Interaction Maintenance: In a hierarchical relationship, role specification involves defining who the controller is and who the controlled person is. In OCC, controllers are generally called administrators (Reid, 1999; Duval Smith, 1999; Ren, Kraut, & Kiesler, 2007), community managers (Fournier & Lee, 2009; Grimes, Jaeger, & Fleischman, 2008; Humphreys, 2008; Ren, Kraut, & Kiesler, 2007; Williams, 1999; Williams & Cothrel, 2002), moderators (Lampe & Johnston, 2005; Lampe & Resnick, 2004) or leaders (O'Mahonny & Ferraro, 2007). In this article, the label administrator is adopted. The role of administrators is similar in despotic and meritocratic hierarchical structures. They ensure that the rules of the community are respected (Duval Smith, 1999; Humphreys, 2008; Reid, 1999), manage information overload (Lampe & Johnston, 2005; Lampe & Resnick, 2004), and nurture community interactions (Humphreys, 2008). However, despotic and meritocratic administrators differ in the scope of their power. Despotic administrators have virtually unlimited power while meritocratic administrators are limited in their action by a number of democratic processes, i.e. members can veto their decisions (O'Mahonny & Ferraro, 2007).

Governance and Moderation in Online Communities of Consumption

Planning systems for relationships regulated by hierarchy governance structures define the rights and responsibilities of administrators and members, and how inappropriate behaviors are dealt with (O'Mahony & Ferraro, 2007). Hierarchical planning systems usually take the shape of community standards. They are not legally-binding, but are the equivalent of internal law or organizational rules within the virtual space of the OCC (Grimes, Jaeger, & Fleischman, 2008). They are very often written in an elusive manner due to the high contextualization of the problems addressed (Grimes, Jaeger, & Fleischman, 2008). In virtual worlds, members are granted fundamental freedoms in terms of freedom of speech and expression, freedom from search and seizure, freedom from unnecessary harm, and ability to seek redress for grievances. However, members have to abide by the rules of the community. Administrators are responsible for informing users about the types of data collected and data access rights (Grimes, Jaeger, & Fleischman, 2008), which they can modify at any time as long as members' legal rights are not violated. OCC often have highly codified procedures about sanctions for member misbehavior and how administrators should resolve member conflicts (Kollock & Smith, 1996; O'Mahony & Ferraro, 2007). Conflicting parties can submit disputes to administrators for informal (mediation) or formal (fact finding and arbitration) resolution (Duval Smith, 1999). Online conflict resolution can take unique forms due to technological help. Duval Smith (1999) reported use of two virtual bodies in different rooms to mediate between members who refused to meet. Physical distance also enables individuals to receive external advice during conflict resolution discussion.

Administrators can monitor members' activity both manually and via automated website functionalities. Monitoring generally involves spending time reading discussions to develop

Governance and Moderation in Online Communities of Consumption

subjective judgments about dubious behaviors. However, administrators are often assisted by technological tools. Humphreys (2008) highlighted the use of spyware in virtual worlds, enabling community management to identify and tackle deviant behaviors. This includes inappropriate language filters, to identify problematic conversations, or “report to moderators” buttons where users flag specific content for the attention of moderators. Such buttons are common in most forums.

Administrators can reward community members for good behavior in two ways. First, they can reward performance. Williams (1999) talked of “making expertise visible”. This can be achieved by giving out reputation points (Lampe & Resnick, 2004) and badges, publishing user ranking and leader boards (Dellarocas, 2010; Ren, Kraut, & Kiesler, 2007), organizing the election of the best members of the community, or granting special powers (Dellarocas, 2010). In forums, administrators commonly make threads sticky or move them to high status sub-areas such as “classic threads”. High performers who contribute significantly to the community can also be awarded formal responsibilities (Duval Smith, 1999; O’Mahonny & Ferraro, 2007; Dellarocas, 2010). Second, administrators can reward effort. Informal leaders can be rewarded for their engagement via training (Mc William, 2000; Williams, 1999). Newbies can be welcomed (Mc William, 2000; Ren, Kraut, & Kiesler, 2007) and then trained via FAQ and mentoring (Lampe and Johnston, 2005).

Administrators also punish deviant behaviors. Typical deviant behaviors are harassment of administrators, inappropriate language, exploitation of bugs and technical glitches, and malicious attacks on other members (Grimes, Jaeger, & Fleischman, 2008). Administrators punish deviant

members by paralyzing, exiling or banning them (Duval Smith, 1999; Reid, 1999). They also have the power to edit discussion threads for censorship purposes or to keep them on topic. They can close threads, archive them, and open-sub-areas of discussion. Finally they arbitrate serious conflicts when mediation is not possible (Duval Smith, 1999). Administrators typically distribute sanctions through a graduated system whereby severity of the sanction depends on the gravity, intentionality and repetitious nature of the offense (Kollock & Smith, 1996).

Hierarchical moderation generally consists of top-down unilateral processes, and is thus difficult to align with adjustment systems. Still, Lampe & Resnick (2004) discussed the creation of meta-administrators (“metamoderators”) who evaluate the quality of administrators’ (“moderators”) evaluations of comments. Administrators appraised as fair gain administrative power while those appraised as unfair lose administrative power, and possibly their administrator status. Grimes, Jaeger, & Fleischman (2008) further recommended members of virtual worlds to gather in groups similar to trade unions and organize revolts and boycotts to pressure virtual world administrators.

Interaction Termination: Hierarchical relationship termination can be due to the exclusion of a member by the administrator, or the suppression of the administrator’s hierarchical status. Member exclusion is arbitrary, without any formal explanation (in despotic systems) or based on clear rational-legal reasons (in meritocratic systems). In both cases, the effects of exclusion are immediate and harsh since the banned member is instantly unable to enter the community. Administrators might even remove all traces of the member (e.g. avatars) from the community (Duval Smith, 1999). The decision can be difficult to enforce if a member is reluctant to depart

the community. Banned members can create new virtual identities and reintegrate the platform until their discovery (Duval Smith, 1999). Relationship termination can also be due to an administrator's loss of status. This could be the result of planned administrator turnover (Williams, 1999) or unplanned adjustment. Administrator's dismissal is generally based on meritocratic grounds, with communities aiming to hire a more competent person for the job. Of course, administrators may also choose to resign.

Clan Governance

Interaction initiation: In communal relationships governed by clan governance structures, interactions are generally initiated spontaneously, out of interest for a particular discussion. After a few exchanges, members develop an opinion on the compatibility of interests, beliefs and values of the discussion partners. They may also screen member profile pages to learn more about their background (Dellarocas, 2010; Ren, Kraut, & Kiesler, 2007). If the OCC includes social networking functionalities, members may also formally connect.

Interaction maintenance: Members posting in OCC generally engage in relationships with various other members. Group dynamics lead to the emergence of diverse social roles (e.g. Forte, Larco, & Bruckman, 2009; Reid, 1999). The most complete and least context-dependent description is probably that of Fournier and Lee (2009), featuring no less than 18 online community roles. Each social role performs a specific function for the group. To name a few, ambassadors promote the community to outsiders, historians preserve the community memory and codify rituals and rites, and mentors teach others and share expertise. Playing these roles provides social

Governance and Moderation in Online Communities of Consumption

status and recognition which in turn enables members to create and enforce community norms (Campbell, Fletcher, & Greenhill, 2009). Individuals enter into social roles due to hard skills, i.e. their capability to perform particular tasks; or soft skills, i.e. their ability to socialize and become popular (Reid, 1999). Social power can be mixed with technical power so that clan governance roles are combined with hierarchy governance roles (c.f. Forte, Larco, & Bruckman, 2009; Reid, 1999).

Social norms, defining what appropriate behavior is and how misbehavior should be dealt with, often are not formally stated in OCC. Normative regulation in OCC is based on implicit rules that have been developed over time. Nevertheless, when social norms are contested, vehement discussions between members or member groups may occur. Because these discussions are archived, they remain, in principle, accessible forever and, thus, allow new members to learn about the ins and outs of OCC life. Usually, key social norms end up as part of the user guidelines, netiquettes, mission statements and FAQ pages (Lampe & Johnston, 2005; Ren, Kraut, & Kiesler, 2007). While those documents generally define a limited number of norms applying to the website at large, sophisticated systems may develop, specifying norms at both the general and the local level. In Wikipedia, for example, any user can post behavioral recommendations on the guideline pages, and if the recommendation “sticks” it becomes a norm. The website thus has an impressive number of written social norms defining appropriate behavior and how to react in cases of misbehavior (Forte, Larco, & Bruckman, 2009).

In OCC, members have a number of ways to monitor each other’s behaviors. Of course, the most direct form of monitoring occurs when members interact. This is facilitated online by the

persistence of interactions on web pages enabling members to “go back in history” (Kollock & Smith, 1996). However, there are also indirect ways to assess other members’ level of community engagement. First, profile pages usually contain information about the length of membership, the number of contributions, and the number of discussion threads started (Dellarocas, 2010). Within social networking sites and on (micro-)blogs, the number of friends, followers, or blog roll contacts gives an indication of social connection and community integration. Finally, badges are an indication of the social role(s) a member has taken up, and show how well he or she is performing.

Rewards are distributed informally based on output or effort. Reward of output happens through members praising contributions of others when they find these informative, supportive or entertaining. Reward of effort typically occurs through mentoring activities (Lampe & Johnston, 2005; Williams & Cothrel, 2002; Ren, Kraut, & Kiesler, 2007), such as welcoming new members and explaining how the quality of contributions is judged in the community, and helping out in case of difficulties. Punishments are also distributed informally. Sometimes, peers simply inform the deviant of the norm being disrespected, although they can also mock or insult (Kollock & Smith, 1996). Adjustment of group identity and values in clan governance happens through constant negotiation between members. Over time, this negotiation leads to important transformations in the normative control system. For instance, O’Mahony & Ferraro (2007) described the progressive appreciation of organizational rather than technical contributions in the Debian community and how this transformed leadership in the community. Wiertz et al. (2010) discussed the progressive emergence of disdain for new comers in a peer-to-peer problem solving community.

Interaction termination: In communal relationships, interaction termination can be formal or informal. Informal relationship breaks consist of no longer directly communicating with the other party, perhaps even no longer participating in the same discussion threads. A formal relationship break involves using functionalities to automatically prevent interactions with the other person. Older OCC platforms (e.g. Usenet, mailing lists, multi-user dungeons, Kollock & Smith, 1996; Reid, 1999) and even some more recent forums (e.g. News sites such as Slashdot, Lampe and Resnick, 2004) commonly use “kill files”, i.e. ignore lists, which enable members to black list certain contributors and no longer view their posts. Platforms with social networking options updated these functionalities with “unfollow”, “unfriend” or “delete from feed”.

Conclusion

The previous section has adapted Heide’s (1994) applied governance framework to provide a theoretical structure for moderation practices in OCC. Whereas this structure closely follows Heide’s conceptualization, it significantly differs from Heide’s framework in the form that governance practices take up due to the technology-enabled environment of OCC. As such, this paper has extended and enriched the original framework.

Interaction initiation incorporates careful interlocutor selection. Under market governance, individuals check potential partners’ transaction histories. In hierarchy governance, individuals check for a potential member’s right to access the community’s virtual space. This leads to granting (or not granting) the person the technological power to access the platform. In clan

Governance and Moderation in Online Communities of Consumption

governance, individual profile pages are used to evaluate the compatibility of user identities, interests, and values.

Interaction maintenance roles are mostly specific to the online environment. Individuals in OCC adopt the roles of providers and beneficiaries interacting under the control of the regulator. In hierarchical relationships parties are administrators and members, while in clan relationships up to 18 different functional roles have been identified. Planning is centered on online documents such as EULAs, Terms of Service, codes of conduct, user guidelines, and FAQs. They define the rules governing behavior and deviation in the context of OCC within a legal, organizational or normative frame depending on the type of governance structure. Monitoring of members' activities is typically performed by humans, often enabled by different technological functionalities including bidding monitoring systems for markets, big brother-like software in hierarchies, and badges in clans. Rewards and punishments are specific for each type of governance structure; differing from technology-enabled feedback, to posts that informally carry positive or negative valence, to granting or reducing technological power, and to giving special status to contributions. Finally, adjustment processes enable the transformation of moderation.

Interaction termination follows specific steps in hierarchy and clan governance. In both cases, technology specific to the online environment allows for the suppression of members' capacity to access the community, the termination of administrators' powers, and the possibility to unfriend or unfollow peers.

Discussion

Contribution

This article provides a coherent vocabulary to conceptualize governance systems in OCC. It also offers a holistic framework to articulate the different elements of OCC governance. In particular, it contributes to the body of knowledge on OCC governance in three ways. First, it uses seminal typologies in governance theory to bring together the different types of structural control mechanisms identified in the literature into a typology of online governance structures: market (transaction mechanisms and law), hierarchy (despotic and meritocratic rules) and clan (group norms). Second, it differentiates governance structures, the regulation of ordinary behaviors, from moderation, the regulation of governance structures, and characterizes moderation. It adapts Heide's (1994) concept of "applied governance" to OCC to characterize how governance structures are organized and administered through moderation strategies. While moderation in OCC is organized around the same eight processes as applied governance (interaction initiation, interaction maintenance - role specification, planning, monitoring, reward, punishment and adjustment - and interaction termination), each dimension takes a different form in OCC due to the technology-mediated environment. Third, all instances in which moderation practices have been described in the existing OCC literature have been analyzed and conceptually related to one of three types of governance structures and a particular control mechanism. The resulting unified framework of OCC governance demonstrates that each type of governance structure requires a different form of moderation to be successful. The next section will further discuss this important insight.

Implications

Governance and Moderation in Online Communities of Consumption

This article is of interest to community managers and digital marketers collaborating closely with OCC. It provides a template illustrating how to overcome situations where individuals and the group have divergent interests. The framework goes beyond “dos and don’ts” lists and provides a valuable typology of influence practices grounded in robust governance theory. Community managers are advised to select influence methods depending on whether they want to nurture transactions, to strengthen hierarchy, or to strengthen specific group norms. In each case, community managers should review role specifications, planning, monitoring, rewarding, punishment, and adaptation systems.

Further research

The theoretical framework presented paves the way for a number of further investigations. First is the development of a contingent theory of governance in OCCs. This article maps out the governance structures and the dimensions of moderation which community managers can use to align the interests of individual members with those of the group. However, different organizational circumstances require different responses (Zeithaml, Varadarajan, & Zeithaml, 1988). One moderation practice aimed at resolving one type of social dilemma does not necessarily resolve the problem in other situations. For example, new members want to contribute new ideas to OCC, but their contributions may create information overload in the group because of the potentially inappropriate form and the volume of their contributions. The interests of one type of member are thus contrary to the interests of the group. A common approach to solve this social dilemma is to create a decentralized feedback system where members grade one another’s contribution, and in which the presentation of comments is

Governance and Moderation in Online Communities of Consumption

organized from the highest to the lowest grades, thus facilitating information selection and processing for each user. While Moon and Sproull (2008) found that this is an effective moderation system, Lampe and Resnick (2004) showed that it can make low quality contributions more visible depending on the volume and timeliness of feedback. Wiertz et al. (2010) further indicated that feedback systems can have negative indirect effects and foster negative attitudes towards new members. This may result in discouraging newcomers from continuing in the community, and thus, jeopardize the long term viability of the community. A contingent theory would thus identify the conditions under which a moderation practice leads to social dilemma resolution.

Different types of contingencies could be discussed. The first contingency determines the primary type of governance structure that would be regulating members' behavior. Community purpose should be an important variable in this respect. In transaction communities (Hagel & Armstrong, 1996) and peer-to-peer problem solving communities (Wiertz et al., 2010), interactions are predominantly transactional and should therefore be regulated via market governance. In contrast, open-source communities and production communities (O'Mahony & Ferraro, 2007) focus on collaboration toward a common output. Hierarchic decisions are therefore regularly taken to coordinate (O'Mahony & Ferraro, 2007) and resolve conflict (Jehn, 1995) so that interactions are predominantly regulated by hierarchy governance. In communities of interest (Hagel & Armstrong, 1997) individuals join to socialize with like-minded individuals resulting in interactions being governed by clan governance. Member purpose arguably combines with community purpose to determine which governance structure should regulate behavior in a particular social dilemma. In open source communities, the majority of members

Governance and Moderation in Online Communities of Consumption

interact for transactional purposes, but the minority of highly-involved members perceives their activity as a hobby and contributes for fun (Shah, 2006). Similarly, on auction sites, some consumers sell products for economic purposes, but others do so to socialize and have fun (Chu & Liao, 2007). In virtual worlds meant for socialization and play, like Second Life or World of Warcraft, some members primarily contribute for transactional purposes (Grimes, Jaeger & Fleischmann, 2008). Generally, recent members contribute for transactional purposes, while senior active members contribute to socialize (Kozinets, 1999). Therefore, recent members' interactions are regulated by market governance, while those of senior active members are regulated by clan governance. Community life cycles should also combine with community and member purpose to determine which governance structure regulates behavior in a particular social dilemma. O'Mahony and Ferraro (2007) described hierarchy shifts from despotic in the nascent stage of the community to meritocratic in the growth and maturity stages. However, the evolution of market and clan governance, and the relative importance of each type of governance over time, has not been investigated.

A second set of contingencies determines which dimensions of moderation community managers should focus on to solve social dilemmas. In cases of information overload, does the solution lie in recruiting newcomers differently (i.e. relationship initiation), ensuring newcomers and senior members are satisfied (i.e. relationship maintenance) or excluding certain newcomers and aggressive senior members (relationship termination)? If community managers aim to keep everyone satisfied, should they enforce norms via punishment or reward? While different situations require different practices, a contingent approach to the use of moderation is missing.

Governance and Moderation in Online Communities of Consumption

A second main avenue for further research involves revealing interactions between the different types of governance structures identified. Statically this would mean characterizing real-life hybrid governance structures which mix market, hierarchy and clan governance. Bradach and Eccless's (1989), for instance, characterized franchising as a hybrid system in offline organizations. Their work could be used to guide further research in OCC governance. Interactions between governance structures could also be investigated dynamically. This would involve characterizing how governance structures influence one another. For example, in a B2B context, micro-social contracts were shown to reduce the amount of opportunism occurring under market governance (Heide, Wathne, & Rokkan, 2007). Future research could examine how this mechanism applies in an OCC context, other possible forms of interaction, and whether the different mechanisms complement or supplement one another?

A third fruitful avenue for research would be to characterize fragmented normative systems within clan governance and to investigate how different types impact group dynamics. At one extreme, social norms apply to every member of the community. At the other extreme, control is personalized for every individual. For instance, does interaction termination mean that no one can interact with a misbehaving member, or do kill files, when controlled individually, enable people to choose whether or not to "ban" a member? Between these extremes lies a range of possibilities to segment OCC into sub-groups governed by different rules. While fragmented social norm governance is present, it is not clear how many forms of fragmentation exist and how they impact members' behavior.

Fourth, hierarchy governance is a particularly interesting phenomenon in OCC as online community members are generally wary of it and members' relationship to hierarchy has been very much under researched so far. A number of questions in this area would be interesting to investigate. One is whether to have paid or voluntary administrators. Professional administration guarantees constant control and strict moderation, but professional administration typically lacks communal legitimacy and the administrative stance of paid moderators might impede the development of group feelings. A second question is to determine whether administrators should be partial or impartial and the consequences for the community. If administrators are impartial in conflicts, they become the voice of justice and their decisions are legitimate. However, taking the side of a particular group or a certain type of behavior is also a way to construct group identity or norms. A third question regards the consequences of censorship. Censorship can occur before or after publishing, involving the administrators only or the wider community with members flagging inappropriate content. What is the effect of the different types of formal censorship on the volume of contributions and members' involvement?

Conclusion

The study of offline governance has provided theoretical and empirical support for the existence of three major forms of governance systems: market, hierarchy and clan. However, whether these systems translate into the context of OCC has remained unknown. This article sets out to determine whether the trichotomy of offline governance structures is relevant to OCC, and also whether moderation practices in OCC could be classified according to typologies present in the offline literature. Both the trichotomy and the offline classification of applied governance

Governance and Moderation in Online Communities of Consumption

(termed moderation here) were found to be useful templates and enabled the creation of a unified framework of OCC governance. This framework details both the overarching governance structures and their respective control mechanisms, together with relevant moderation practices. The framework provides community stakeholders with a valuable tool to guide the management of OCC, enabling the selection of the most appropriate form of governance, commensurate with OCC objectives. As a result of the development of this framework, numerous avenues for future research in the area of OCC governance have been identified. These should provide the area with sufficient impetus to enable its continued future development as a valuable stream of research.

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		Market	Hierarchy	Clan
Governance Structure also referred to as...		Bilateral, Price	Bureaucratic, Unified, Unilateral, Authority	Bilateral, Hybrid
Control mechanism	Form of rule	Transaction rules	Authoritarian Rules	Group norms
	Enforcement mechanism	Negotiation	Coercion	Self-enforced, Peer pressure
Assumptions	Goal	Maximize value	Increase Power	Increase social integration
	Type of interaction	Transactional relationship	Unilateral relationship	Bilateral relationship
	Context	Marketplace	Formal organization	Informal group
Underlying Theory		Micro economic theory	Power dependency theory	Interpersonal influence theory

Table 1: Typology of Offline Governance Structures

Market		Hierarchy		Clan
Transaction rules	Contract law	Despotic rules	Meritocratic rules	Group norms

Table 2: Governance Structures and Associated Control Mechanisms in OCC

		Market		Hierarchy		Clan
		Transaction mechanisms	Legal mechanisms	Meritocratic Mechanisms	Despotic Mechanisms	Group Norms
Initiation of interaction		- Parties screen profile looking for a trustworthy party	- Contract predefines transaction conditions	Administrator recruits the most competent individuals (no selection in open communities)	Administrator recruits individuals best fitting his or her interests (no selection in open communities)	- Members engage in spontaneous exchanges - Members screen profiles - Members formally connect
Interaction maintenance	Role specification	<u>Beneficiary</u> - Seeks to address an unfulfilled need <u>Provider</u> - Seeks to transfer a resource in exchange for some sort of value	<u>Regulator</u> - Legislator: designs legally binding rules of transaction - Judge: enforces rules	<u>Administrator</u> - Ensures rules are respected - Manages information overload - Promotes interactions <u>Regular member</u> - Abides rules	<u>Functional roles</u> Members perform the main social functions of the group	
	Planning Systems		- Define property law, privacy and boundaries of freedom - Define regulatory process in case of inappropriate transactions or transaction failure: dispute resolution, return costs	- <u>Define members' duties and rights:</u> rules and fundamental freedoms - <u>Define administrator's duties and rights</u> : inform about data collection and access practices and freedom to modify planning systems - <u>Define regulatory processes:</u> sanctions for member misbehavior, conflict resolution procedures	- Define group norms and how to deal with norm violation in a variety of contexts	
	Monitoring	Follow up of the transaction process via bidding monitoring systems and automated email(economic			- Read discussion for subjective assessment - Use behavior tracking software	- Read discussion for subjective assessment - Use profile information to

Governance and Moderation in Online Communities of Consumption

		transactions only)			assess engagement and integration - Use badges to assess members' performance in their role
	Rewards	- Provide positive feedback formally or informally		- <u>Reward performance</u> : Distribute reputation points and badges, publish leader boards, award responsibilities, assign special status to particular posts and threads - <u>Reward effort</u> : train leaders and newbies	- <u>Reward output</u> : Praise members for their contribution - <u>Reward effort</u> : mentoring newbies
	Punishments	- Provide negative feedback	- Banning - Reimbursement	- <u>Graded sanctions</u> : paralyze, exile - Edit, move, close, archive threads and sub-areas of discussion - Arbitrate conflicts	- Inform, ridicule, insult
	Adjustment processes	- Processes for code improvement	- Adapting the planning document	- Meta-moderation	- Groups of users gather as trade unions and organize boycotts and revolts - Negotiation of group values and identity
Interaction termination				- Ban member or replace administrator based on rational grounds - Ban member or replace administrator based on arbitrary grounds	- Choose not to interact - Unfollow, unfriend, add to kill file

Table 3: Moderation (Applied Governance) in Online Communities of Consumption, by Type of Governance Structure

Appendix

Authors, Year	Research Domain	Type of online community	Market		Hierarchy		Clan
			Transaction rules	Contract law	Despotic rules	Meritocratic rules	Norms
Bagozzi & Dholakia, 2002	Marketing	Communities of interest					✓
Chu & Liao, 2007	Marketing	Communities of transaction	Implied				
Dellarocas, 2010	Marketing	Online communities in general				Implied	Implied
De Zwart & Lindsay, 2009	Internet Studies	Virtual worlds		✓	✓		✓
Duval Smith, 1999	Sociology	Multi-user dungeons			✓	✓	
Fairfield, 2008	Law	Virtual worlds		✓			
Forte, Larco, & Bruckman, 2009	Information systems	Wikipedia					✓
Fournier & Lee, 2009	Marketing	Brand communities				Implied	Implied
Gilkeson & Reynolds, 2003	Marketing	Communities of transaction	✓				
Grimes, Jaeger, & Fleischmann, 2008	Information systems	Virtual worlds		✓	✓		
Humphreys, 2008	Cultural Studies	Virtual worlds	Implied	✓	✓	✓	✓
Kollock & Smith, 1996	Sociology	Bulletin board (Usenet)			✓	✓	✓
Lampe & Resnick, 2004	Information systems	News site				Implied	✓
Lampe & Johnston, 2005	Information systems	News site				Implied	✓
Mc William, 2000	Marketing	Brand communities				Implied	✓
Moon & Sproull,	Information Systems	Peer-to-peer problem solving	Implied				
O'Mahony & Ferraro, 2007	Management	Open source communities			✓	✓	✓
Ren, Kraut, & Kiesler, 2007	Management	Online communities in general				Implied	✓
Reid, 1999	Sociology	Multi-user dungeons			✓	✓	Implied
Shah, 2006	Management	Open source communities	✓	✓			
Wiertz et al., 2010	Marketing	Peer-to-peer problem solving	Implied				✓
Williams & Cothrel, 2002	Management	Online communities in general				Implied	Implied
Williams, 1999	Management	Online communities in general	Implied			Implied	

Appendix 1: Literature Discussing Governance Structures in OCC

Governance and Moderation in Online Communities of Consumption

Authors, Year	Relationship initiation	Relationship maintenance						Relationship termination
		Role	Planning	Monitoring	Rewards	Punishment	Adjustments	
Chu & Liao, 2007		✓						
Dellarocas, 2010	✓			✓	✓			
De Zwart & Lindsay, 2009		✓	✓					
Duval Smith, 1999		✓	✓		✓	✓		✓
Fairfield, 2008			✓					
Forte, Larco, & Bruckman, 2009		✓	✓					
Fournier & Lee, 2009		✓						
Gilkeson & Reynolds, 2003	✓	✓	✓		✓	✓		
Grimes, Jaeger, & Fleischmann et al., 2008		✓	✓				✓	
Humphreys, 2008		✓	✓	✓	✓	✓	✓	
Kollock & Smith, 1996			✓	✓		✓		✓
Lampe & Resnick, 2004		✓			✓	✓	✓	✓
Lampe & Johnston, 2005		✓	✓		✓	✓		
Mc William, 2000					✓			
Moon & Sproull, 2008					✓	✓		
O'Mahony & Ferraro, 2007		✓	✓		✓		✓	
Ren, Kraut, & Kiesler, 2007	✓	✓	✓	✓				
Reid, 1999		✓				✓		✓
Shah, 2006			✓					
Wiertz et al., 2010					✓	✓	✓	
Williams & Cothrel, 2002		✓			✓		✓	
Williams, 1999		✓			✓			✓

Appendix 2: Literature Discussing Moderation in OCC